STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

DAWN R. GALLAGHER

COMMISSIONER

JOHN ELIAS BALDACCI COVERNOR

> Chris Higgins Boothbay Harbor Sewer District P.O. Box 531 Boothbay Harbor, ME 04538

December 12, 2005

RE:

Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0100064

Maine Waste Discharge License (WDL) Application #W002750-5L-E-R

Final Permit/License

Dear Chris:

Enclosed please find a copy of your final MEPDES permit and Maine WDL which was approved by the Department of Environmental Protection. Please read the permit/license and its attached conditions carefully. You must follow the conditions in the order to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "Appealing a Commissioner's Licensing Decision."

We would like to make you aware of the fact that your monthly Discharge Monitoring Reports (DMR) may not reflect the revisions in this permitting action for several months. However, you are required to report applicable test results for parameters required by this permitting action that do not appear on the DMR. Please see the attached April 2003 O&M Newsletter article regarding this matter.

If you have any questions regarding the matter, please feel free to call me at 287-7693.

Sincerely

Gregg Wood

Division of Water Resource Regulation Bureau of Land and Water Quality

Enc.

cc:

Denise Behr, DEP/CMRO

AUGUSTA 17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017 (207) 287-7688 RAY BLDG., HOSPITAL ST.

BANGOR 106 HOGAN ROAD BANGOR, MAINE 04401

PORTLAND 312 CANCO ROAD PORTLAND, MAINE 04103 (207) 941-4570 FAX: (207) 941-4584 (207) 822-6300 FAX: (207) 822-6303 PRESQUE ISLE 1235 CENTRAL DRIVE, SKYWAY PARK PRESQUE ISLE, MAINE 04769-2094 (207) 764-0477 FAX: 764-1507

DMR Lag

(reprinted from April 2003 O&M Newsletter)

When the Department renews discharge permits, the parameter limits may change or parameters may be added or deleted. In some cases, it is merely the replacement of the federally issued NPDES permit with a state-issued MEPDES permit that results in different limits. When the new permit is finalized, a copy of the permit is passed to our data entry staff for coding into EPA's Permits Compliance System (PCS) database. PCS was developed in the 1970's and is not user-friendly. Entering or changing parameters can take weeks or even months. This can create a lag between the time your new permit becomes effective and the new permit limits appearing on your DMRs. If you are faced with this, it can create three different situations that have to be dealt with in different ways.

- 1. If the parameter was included on previous DMRs, but only the limit was changed, there will be a space for the data. Please go ahead and enter it. When the changes are made to PCS, the program will have the data and compare it to the new limit.
- 2. When a parameter is eliminated from monitoring in your new permit, but there is a delay in changing the DMR, you will have a space on the DMR that needs to be filled. For a parameter that has been eliminated, please enter the space on the DMR for that parameter only with "NODI-9" (No Discharge Indicator Code #9). This code means monitoring is conditional or not required this monitoring period.
- 3. When your new permit includes parameters for which monitoring was not previously required, and coding has not caught up on the DMRs, there will not be any space on the DMR identified for those parameters. In that case, please fill out an extra sheet of paper with the facility name and permit number, along with all of the information normally required for each parameter (parameter code, data, frequency of analysis, sample type, and number of exceedances). Each data point should be identified as monthly average, weekly average, daily max, etc. and the units of measurement such as mg/L or lb/day. Staple the extra sheet to the DMR so that the extra data stays with the DMR form. Our data entry staff cannot enter the data for the new parameters until the PCS coding catches up. When the PCS coding does catch up, our data entry staff will have the data right at hand to do the entry without having to take the extra time to seek it from your inspector or from you.

EPA is planning significant improvements for the PCS system that will be implemented in the next few years. These improvements should allow us to issue modified permits and DMRs concurrently. Until then we appreciate your assistance and patience in this effort.



STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

BOOTHBAY HARBOR S BOOTHBAY HARBOR, LINCOLN COUNTY, MA	INE)	MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
PUBLICLY OWNED TRI ME0100064 W002750-5L-E-R	EATMENT WORKS APPROVAL)	AND WASTE DISCHARGE LICENSE RENEWA L

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et seq. and Maine Law, 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection has considered the application of the BOOTHBAY HARBOR SEWER DISTRICT, with its supportive data, agency review comments, and other related materials on file, and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied for renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0100064/ Waste Discharge License (WDL) #W002750-5L-C-R, which was issued on December 8, 2000 and subsequently modified on September 21, 2001. The MEDPES permit/WDL expired on December 8, 2005. The MEPDES permit/WDL approved the monthly average discharge of 0.64 million gallons per day (MGD) of secondary treated waste waters from a municipally owned waste water treatment facility to the tidal waters of Boothbay Harbor, Class SB, in Boothbay Harbor, Maine.

PERMIT SUMMARY

This permit carries forward all terms and conditions of the MEPDES permit/WDL with the following exceptions;

- 1. Elimination of the daily maximum water quality based mass and concentration limitations for copper.
- 2. Inclusion of a seasonal (June September inclusively) monitoring requirement for oil & grease.
- 3. Revision of the whole effluent toxicity (WET) and chemical specific testing requirements pursuant to a new Department rules, Chapter 530, Surface Water Toxics Control Program, and Chapter 584, Surface Water Quality Criteria for Toxic Pollutants, that became effective on October 9, 2005.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated November 9, 2005, (revised on December 12, 2005) and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

- 1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.
- 2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.
- 3. The provisions of the State's antidegradation policy, 38 M.R.S.A., Section 464(4)(F), will be met, in that:
 - a. Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
 - b. Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;
 - c. The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
 - d. Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and
 - e. The discharge will be subject to effluent limitations that require application of best practicable treatment.
- 4. The discharge will be subject to effluent limitations that require application of best practicable treatment.

ACTION

W27505LE

THEREFORE, the Department APPROVES the above noted application of the BOOTHBAY HARBOR SEWER DISTRICT to discharge a monthly average of 0.64 million gallons per day (MGD) of secondary treated municipal waste waters to the waters of the Boothbay Harbor, Class SB, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations, including:

- 1. "Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits," revised July 1, 2002, copy attached.
- 2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
- 3. This permit expires five (5) years from the date of signature below.

This permit expires tive (3) years from the date of signature below.
DONE AND DATED AT AUGUSTA, MAINE, THIS 1371 DAY OF, 2005.
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BY: Dawn Gallagher, Commissioner
PLEASE NOTE ATTACHED FACT SHEET FOR GUIDANCE ON APPEAL PROCEDURES
Date of initial receipt of application: November 10, 2005
Date of application acceptance: November 10, 2005
Date filed with Board of Environmental Protection DEC 1 3 2005

This order prepared by Gregg Wood, BUREAU OF LAND AND WATER QUALITY

12/12/05

BOARD OF ENVIRONMENTAL PROT. STATE OF MAINE

ME0100064 W002750-5L-E-R

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

to discharge secondary treated waste waters from Outfall #001, to the tidal waters of Boothbay Harbor. Such discharges shall 1. During the period beginning the effective date of the permit, and lasting through permit expiration, the permittee is authorized be limited and monitored by the permittee as specified below:

Effluent Characteristic			Discharge Limitations	mitations			Minimum	mn
							Monitoring Requirements	quirements
	Monthly	Weekly	Daily	Monthly	Weekly	Daily	Measurement	Sample
	Average	Average	Maximum	Average	Average	Maximum	Frequency	Tyne
Flow, MGD	0.64 MGD	•	Report MGD				Continuous	Recorder
(50050)	/03/		[69]				166/66/	(8C)
BOD_5	160 #/Day	240 #/Day	267 #/Day	$30 \mathrm{mg/L}$	45 mg/L	50 mg/L	1/Week	Composite
(00310)	[26]	1261	[26]	[61]	[61]	[6]]	[10]	[24]
BOD ₅ % Removal	1		!	85 %	-	}	1/Month	Calculate
1810101				[23]			101/301	(CA)
TSS	160 #/Day	240 #/Day	267 #/Day	$30 \mathrm{mg/L}$	45 mg/L	50 mg/L	1/Week	Composite
1005301	1921	[26]	/26/	[61]	1611	1613	120/101	1741
TSS % Removal (1)	1	-	1	85 %			1/Month	Calculate
1810111				/23/			101/301	10.41
Settleable Solids	!	!	1	-	-	0.3 ml/L	1/Week	Grab
[00545]						[25]	120/101	/GR)
Fecal Coliform $^{(2)}_{[319616]}$ (May $15 - September 30$)	1	1	i	15/100 ml ⁽³⁾		50/100 ml	1/Week	Grab
Total Residual Chlorine (4)		1		0.1 ma/T		(13)	1,01.07	/GR/
5300607				7.61.7		7.8m 7.0	1/Day	Grao
Oil & Grease ⁽⁵⁾ [00552]	-			Report mg/L		15 mg/L	1/Month	Grab
(June 1 – September 30)				[61]		1613	101/301	(GR)
pH (Standard Units) 1004001	!	1	!		1	0.6-0.9	1/Day	Grab
The itelioreral assertion is a first transfer of						[12]	[01/01]	/GR)

The italicized numeric values in brackets in the tables above are not limitations but codes used by Department personnel to code monthly Discharge Monitoring Reports (DMR's).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Beginning 12 months prior to the expiration date of this permit and lasting through permit expiration.

Effluent Characteristic		Discharge]	Discharge Limitations		Monitoring	Minimum Monitoring Requirements
	Monthly Average	Daily	Monthly	Daily	Measurement	
Whole Effluent Toxicity ⁽⁶⁾ Acute – NOFI			ONCI ago	1ATAVIBIUIII	Aouanbara	Sample Type
Mysidopsis bahia _(TDM3E) (Mysid Shrimp)			l	Report % [23]	1/Year tolmn	Composite [24]
Chronic – NOEL (6) Arbacia punctulata ribera 11	1	!		Renort %		
(Sea urchin)				125 v 153	1/ I CdI [0]/YRJ	Composite [24]
Priority pollutant ⁽⁷⁾ (50008)		-	I	Report ug/L 1281	1/Year folities	Composite/Grab (24)
Analytical chemistry (8) [50008]				Report ug/L [28]	1/Quarter 101/901	Composite/Grab (24)

The italicized numeric values in brackets in the tables above are not limitations but codes used by Department personnel to code monthly Discharge Monitoring Reports (DMR's).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

Sampling Locations:

Influent sampling for BOD₅ and TSS shall be sampled in the influent wetwell.

Effluent sampling- All effluent monitoring, with the exception of total residual chlorine, shall be conducted before the effluent bell (after the chlorination but before dechlorination) and is considered to be representative of end-of-pipe effluent characteristics.

Any change in sampling location(s) must be reviewed and approved by the Department in writing.

Sampling –Sampling and analysis must be conducted in accordance with; a) methods approved in 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services.

- 1. **Percent removal** The treatment facility shall maintain a minimum of 85 percent removal of both BOD₅ and TSS. The percent removal shall be based on a monthly average calculation using influent and effluent concentrations. The percent removal shall be waived when the monthly average influent concentration is less than 200 mg/L.
- 2. **Fecal coliform bacteria** Limits are seasonal and apply between May 15th and September 30th inclusively of each year. The Department reserves the right to require year-round disinfection to protect the health, safety and welfare of the public.
- 3. **Fecal coliform bacteria** The monthly average limitation is a geometric mean limitation and values shall be calculated and reported as such.
- 4. **Total residual chlorine (TRC)** TRC limitations are applicable anytime of year in which elemental chlorine or chlorine based compounds are utilized as disinfectants. TRC shall be tested using Amperometric Titration or the DPD Spectrophotometric Method. The EPA approved methods are found in <u>Standard Methods for the Examination of Water and Waste Water</u>, (most current approved edition), Method 4500-CL-E and Method 4500-CL-G or U.S.E.P.A. <u>Manual of Methods of Analysis of Water and Wastes</u>.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

- 5. Oil & Grease Monitoring and reporting requirements are only in effect between June 1 September 30 of each year. The Department will perform a statistical evaluation on the results collected for the summer of 2006 to determine if the discharge has a reasonable potential to exceed the daily maximum limit of 15 mg/L and make a determination if oil & grease testing is to be suspended for calendars 2007 and beyond.
- 6. Whole Effluent Toxicity (WET) Testing Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions bracketing the critical acute and chronic water quality thresholds of 6.7% and 0.8%, respectively), which provides a point estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points.

Beginning 12 months prior to permit expiration and lasting through permit expiration, the permittee shall conduct screening level WET testing at a minimum frequency of once per year (1/Year). Acute tests shall be conducted on the mysid shrimp (Mysidopsis bahia) and chronic tests shall be conducted on the sea urchin (Arbacia punctulata). Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 6.7% and 0.8%, respectively.

The permittee is also required to analyze the effluent for the parameters specified in the analytical chemistry on the form in Attachment A of this permit each time a WET test is performed.

Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following USEPA methods manuals.

- a. Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Water to Marine and Estuarine Organisms, Fifth Edition, October 2002, EPA-821-R-02-014.
- b. <u>Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Freshwater and Marine Organisms</u>, Third Edition, October 2002, EPA-821-R-02-012.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

7. Priority pollutant testing – Priority pollutants are those parameters listed by Department rule, Chapter 525, Section 4(IV). Beginning 12 months prior to permit expiration and lasting through permit expiration, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year).

Priority pollutant testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, when applicable. Priority pollutant testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See Attachment E of this Fact Sheet for a list of the Department's reporting limits. Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health water quality criteria as established in Chapter 584. For the purposes of DMR reporting, enter a "1" for <u>yes</u>, testing done this monitoring period or "NODI-9" monitoring <u>not required</u> this period.

All mercury sampling required by this permit or required to determine compliance with interim limitations established pursuant to Department rule Chapter 519, shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry.

8. Analytical chemistry – Refers to a suite of chemical tests that include ammonia nitrogen (as N), total aluminum, total arsenic, total cadmium, total chromium, total copper, total cyanide, total lead, total nickel, total silver, total zinc and total residual chlorine.

Beginning 12 months prior to permit expiration and lasting through permit expiration, the permittee shall conduct screening level analytical chemistry testing at a minimum frequency of once per calendar quarter (1/Quarter). Analytical chemistry testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See Attachment E of this Fact Sheet for a list of the Department's reporting limits.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days of their availability before submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health water quality criteria as established in Chapter 584. For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

B. NARRATIVE EFFLUENT LIMITATIONS

- 1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated by the classification of the receiving waters.
- 2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated by the classification of the receiving waters.
- 3. The discharge shall not impart color, taste, turbidity, toxicity, radioactivity or other properties which cause those waters to be unsafe for the designated uses and characteristics ascribed to their classification.
- 4. Notwithstanding specific conditions of this permit, the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. DISINFECTION

If chlorination is used as the means of disinfection, an approved chlorine contact tank providing the proper detention time consistent with good engineering practice must be utilized followed by a dechlorination system if the imposed total residual chlorine (TRC) limit cannot be achieved by dissipation in the detention tank. The total residual chlorine in the effluent shall at no time cause any demonstrable harm to aquatic life in the receiving waters. The dose of chlorine applied shall provide a TRC concentration that will effectively reduce fecal coliform bacteria levels to or below those specified in Special Condition A, Effluent Limitation and Monitoring Requirements, of this permit.

D. TREATMENT PLANT OPERATOR

The waste water treatment facility must be operated under the direction of a person holding a minimum of a **Grade III** certificate [or Maine Professional Engineer (PE) certificate] pursuant to Title 32 M.R.S.A., Section 4171 et seq. All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

E. LIMITATIONS FOR INDUSTRIAL USERS

Pollutants introduced into the waste water collection and treatment system by a non-domestic source (user) shall not pass through or interfere with the operation of the treatment system.

F. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from Outfall 001. Discharges of waste water from any other point source are not authorized under this permit, but shall be reported in accordance with Standard Condition B(5) (Bypass) of this permit.

G. PUMP STATION EMERGENCY BYPASSES

Discharges from emergency bypass structures in pump stations are not authorized by this permit. The permittee shall monitor the pump stations listed below in accordance with the monitoring plan previously approved by the Department to determine the frequency and quantity (via measurement or estimation) of wastewater discharged from the bypass structures. Discharges from the following pump stations shall be reported in accordance with Standard Condition B(5), *Bypasses*, and Special Condition F, *Unauthorized Discharges*, of this permit.

Outfall #	Location	Receiving Water & Classification
002	Pump Station #1, Union Street	Boothbay Harbor, Class SB
003	Pump Station #3, Western Avenue	Boothbay Harbor, Class SB
004	Pump Station #4, Commercial Street	Boothbay Harbor, Class SB
005	Pump Station #5, Townsend Avenue	Mill Creek, Class SB
006	Manhole, Off Western Avenue	Boothbay Harbor, Class SB
007	Pump Station, DMR, McKown Pt.	Boothbay Harbor, Class SB

H. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee shall notify the Department of the following:

- 1. Any introduction of pollutants into the waste water collection and treatment system from an indirect discharger in a primary industrial category discharging process waste water; and
- 2. Any substantial change in the volume or character of pollutants being introduced into the waste water collection and treatment system.
- 3. For the purposes of this section, adequate notice shall include information on:
 - a. The quality and quantity of waste water introduced to the waste water collection and treatment system; and
 - b. Any anticipated impact of the change in the quality or quantity of the waste water to be discharged from the treatment system.

I. WET WEATHER FLOW MANAGEMENT PLAN

The treatment facility staff shall develop and maintain a Wet Weather Management Plan to direct the staff on how to operate the facility effectively during periods of high flow. The Department acknowledges that the existing collection system may deliver flows in excess of the monthly average design capacity of the treatment plant during periods of high infiltration and rainfall. The revised plan shall include operating procedures for a range of intensities, address solids handling procedures (including septic waste and other high strength wastes if applicable) and provide written operating and maintenance procedures during the events.

The permittee shall review their plan annually and record any necessary changes to keep the plan up to date.

J. OPERATION & MAINTENANCE (O&M) PLAN

The permittee shall develop and maintain a current written comprehensive Operation & Maintenance (O&M) Plan. The plan shall provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

By December 31 of each year, or within 90 days of any process changes or minor equipment upgrades, the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the wastewater treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department and other regulatory personnel upon request.

Within 90 days of completion of new and or substantial upgrades of the wastewater treatment facility, the permittee shall submit the updated O&M Plan to their Department inspector for review and comment.

K. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

During the effective period of this permit, the permittee is authorized to add up to 5,000 gallons per day of septage into its waste water treatment process, subject to the following terms and conditions.

- 1. This approval is limited to methods and plans described in the application and supporting documents. Any variations are subject to review and approval prior to implementation.
- 2. At no time shall addition of septage cause or contribute to effluent violations. If such conditions do exist, receipt of septage shall be suspended until effluent quality can be maintained.
- 3. The permittee shall maintain records which shall include, as a minimum, the following by date: volume of septage received, source of the septage (name of municipality), the hauler transporting the septage, the dates and volume of septage added to the waste treatment influent and test results.
- 4. Addition of septage shall not cause the treatment facilities design capacity to be exceeded. If, for any reason, the treatment facility becomes overloaded, receipt of septage shall be reduced or terminated in order to eliminate the overload condition.

K. DISPOSAL OF SEPTAGE WASTE IN WASTE WATER TREATMENT FACILITY

- 5. Septage known to be harmful to the treatment processes shall not be accepted. Wastes which contain heavy metals, toxic chemicals, extreme pH, flammable or corrosive materials in concentrations harmful to the treatment operation shall be refused.
- 6. Holding tank waste water shall not be recorded as septage and should be reported in the treatment facility's influent flow.

L. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and postmarked on or before the thirteenth (13th) day of the month or hand-delivered to a Department Regional Office such that the DMR's are received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the following addresses:

Maine Department of Environmental Protection
Central Maine Regional Office
Bureau of Land & Water Quality
Division of Engineering, Compliance & Technical Assistance
State House Station #17
Augusta, ME. 04333

M. CHAPTER 530(2)(D)(4) CERTIFICATION

On or before December 31 of each year [PCS code 959799] the permittee is required to file a statement with the Department describing the following.

- 1. Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;
- 2. Changes in the operation of the treatment works that may increase the toxicity of the discharge; and
- 3. Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

Further, the Department may require that annual testing be re-instituted if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

N. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time, and with notice to the permittee, modify this permit to: (1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded; (2) require additional effluent or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

O. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remain in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT AND MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: November 9, 2005 Revised: December 12, 2005

PERMIT NUMBER:

ME0100064

LICENSE NUMBER:

W002750-5L-E-R

NAME AND ADDRESS OF APPLICANT:

BOOTHBAY HARBOR SEWER DISTRICT P.O. Box 531, Sea Street

Boothbay Harbor, Maine 04538

COUNTY:

Lincoln County

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Boothbay Harbor Sewer District 27 Sea Street Boothbay Harbor, Maine 04538

RECEIVING WATER/CLASSIFICATION:

Tidewaters of Boothbay Harbor/Class SB

COGNIZANT OFFICIAL AND TELEPHONE NUMBER:

Mr. Chris Higgins, Supt.

(207) 633-4663

1. APPLICATION SUMMARY

The applicant has applied for renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0100064/ Waste Discharge License (WDL) #W002750-5L-C-R, which was issued on December 8, 2000 and subsequently modified on September 21, 2001. The MEDPES permit/WDL expired on December 8, 2005. The MEPDES permit/WDL approved the monthly average discharge of 0.64 million gallons per day (MGD) of secondary treated waste waters from a municipally owned waste water treatment facility to the tidal waters of Boothbay Harbor, Class SB, in Boothbay Harbor, Maine.

2. PERMIT SUMMARY

- a. <u>Terms and Conditions</u> This permit carries forward all terms and conditions of the MEPDES permit/WDL with the following exceptions;
 - 1. Elimination of the daily maximum water quality based mass and concentration limitations for copper.
 - 2. Inclusion of a seasonal (June September inclusively) monitoring requirement for oil & grease.
 - 3. Revision of the whole effluent toxicity (WET) and chemical specific testing requirements pursuant to a new Department rules, Chapter 530, Surface Water Toxics Control Program, and Chapter 584, Surface Water Quality Criteria for Toxic Pollutants, that became effective on October 9, 2005.
- b. <u>History</u>: The most recent regulatory actions include the following:

October 5, 1998 - The U.S. Environmental Protection Agency (EPA) issued National Pollutant Discharge Elimination System (NPDES) permit #ME0100064 for a five-year term.

January 19, 1994 – The Department issued WDL #W002750-46-B-R for a five-year term.

May 23, 2000 – The Department administratively modified WDL #W002750-46-B-R by establishing interim average and maximum concentration limits of 32.6 part per trillion (ppt) and 48.8 ppt respectively, for mercury.

December 8, 2000 – The Department issued Waste Discharge License #W002750-5L-C-R for a five-year term.

January 12, 2001 - The Department received authorization from the EPA to administer the NPDES permitting program in Maine. From that point forward, the program has been referred to as the MEPDES permitting program.

August 13, 2001 - The Boothbay Harbor Sewer District submitted an application to the Department to modify WDL #W002750-5L-C-R to incorporate the terms and conditions of the MEPDES program.

August 21, 2001 – The Boothbay Harbor Sewer District submitted a letter to the Department authorizing the EPA to retire NPDES permit #ME0100064, last issued by the EPA on October 5, 1998. Upon issuance of the MEPDES permit, all terms and conditions of the NPDES were null and void.

2. PERMIT SUMMARY (cont'd)

September 24, 2001 – The Department issued combination MEPDES permit #ME0100064/WDL #W002750-5L-D-M for a five-year term.

October 9, 2005 - Department rules, Chapter 530, Surface Water Toxics Control Program, and Chapter 584, Surface Water Quality Criteria for Toxic Pollutants, became effective.

November 10, 2005 – The Boothbay Harbor Sewer District submitted a timely and complete application to the Department to renew the MEPDES permit/WDL.

- c. Source Description: Waste water conveyed to the waste water treatment facility is generated by domestic and commercial entities within the District's boundaries. There are no industrial users nor is the facility required to implement a formal pretreatment program. The collection system is 100% separated, is approximately fifteen (15) miles in length and utilizes nineteen (19) pump stations to convey flows to the treatment facility. All 19 pump stations have emergency generator receptacles and manual transfer switches such that back-up power via a portable generator can be supplied to the stations in the event of a power failure. The District is currently executing a request for proposals to install on-site back-up power for three (3) of its largest pump stations. There are no combined sewer overflow (CSO) outfalls associated with the collection system. A map showing the location of the treatment facility and the receiving waters is included as Attachment A of this Fact Sheet.
- d. Waste Water Treatment: The existing waste water treatment facility provides a secondary level of treatment via bar racks, grit removal and sequencing batch reactors. The secondary treated waste water is disinfected with sodium hypochlorite in a contact tank for disinfection and dechlorinated via sodium bisulfite prior to being discharged to the receiving water via a pipe measuring 24 inches in diameter with three diffuser ports, each measuring 8 inches in diameter. The facility is authorized to introduce up to 5,000 gallons per day of septage into the waste water treatment process provided it is done so in accordance with the most recent Department approved written Septage Management Plan required by Department rule Chapter 555. Biosolids generated at the facility are digested, dewatered by a belt press, and land spread on Department approved sites. See Attachment B of this Fact Sheet for a schematic of waste water treatment facility.

3. CONDITIONS OF PERMITS

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., Section 420 and Department rule 06-096 CMR Chapter 530, Surface Water Toxics Control Program, require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, Surface Water Quality Criteria for Toxic Pollutants, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

Maine Law, 38 M.R.S.A., Section 469, classifies Boothbay Harbor at the point of discharge as Class SB waters. Maine Law, 38 M.R.S.A., Section 465-B(2) describes the classification standards for Class SB waters.

5. RECEIVING WATER QUALITY CONDITIONS

A document entitled, The State of Maine, Department of Environmental Protection, 2004 Integrated Water Quality Monitoring and Assessment Report (305b) report published by the Department indicates that State's Department of Marine Resources shellfish harvesting area #C23 is closed to the harvesting of shellfish. (See Attachment A of this Fact Sheet). The DMR traditionally closes shellfish harvesting areas if there are known sources of discharges with unacceptable bacteria levels (instream thresholds established in the National Shellfish Sanitation Program) or keep areas closed due to lack of updated information. In addition, a small area is closed in the immediate vicinity of all waste water treatment outfall pipes in the unlikely event of a failure in the disinfection system for the treatment plant. It is noted the Boothbay Harbor area has one of the largest concentration of permitted overboard discharge systems in the State which is the primary reason for the shellfish area closures. The Department has made the determination that if the District's waste water treatment facility maintains compliance with the fecal coliform bacteria limits established in this permitting action, the facility will not cause or contribute to the closure of the shellfish harvesting area.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow - The previous permitting action established a monthly average flow limitation of 0.640 MGD that is being carried forward in this permitting action. The limit reflects the monthly average design capacity of the existing waste water treatment facility. A review of the monthly Discharge Monitoring Report (DMR) data for the period calendar year 2001 to the present indicates the monthly average flow has ranged from 0.182 MGD to 0.522 MGD with an arithmetic mean of 0.353 MGD.

b. <u>Dilution Factors</u>: Department Regulation Chapter 530, "Surface Water Toxics Control Program", §4(A)(2)(a) states that for discharges to the ocean, dilution must be calculated as near-field or initial dilution, or that dilution available as the effluent plume rises from the point of discharge to its trapping level, at mean low water level and slack tide for the acute exposure analysis and at mean tide for the chronic exposure analysis using appropriate models determined by the Department such as MERGE, CORMIX or another predictive model determined by the Department to be appropriate for the site conditions.

Using plan and profile information provided by the permittee and the CORMIX model, the Department has determined the dilution factors for the discharge of 0.64 MGD from the waste water treatment facility are as follows:

Acute = 15:1

Chronic – 125:1

Harmonic Mean = $375:1^{(1)}$

Footnote:

- (1) Pursuant to Department rule Chapter 530, "Surface Water Toxics Control Program", §4(2)(c), the harmonic mean dilution factor is approximated by multiplying the chronic dilution factor by a factor of three (3).
- c. <u>Biochemical Oxygen Demand (BOD5) & Total Suspended Solids (TSS):</u> The previous permitting action established monthly and weekly average BOD5 and TSS best practicable treatment (BPT) concentration limits of 30 mg/L and 45 mg/L respectively, that are based on secondary treatment requirements of the Clean Water Act of 1977 §301(b)(1)(B) as defined in 40 CFR Part 133.102 and Department rule Chapter 525(3)(III). The maximum daily BOD5 and TSS concentration limits of 50 mg/L were based on a Department best professional judgment of BPT. All three concentration limits are being carried forward in this permitting action.

As for mass limitations, the previous permitting action established monthly average, weekly average and daily maximum limitations based on a monthly average limit of 0.640 MGD that are being carried forward in this permitting action. The limitations were derived as follows:

Monthly average: (0.640 MGD)(8.34)(30 mg/L) = 160 lbs/day Weekly average: (0.640 MGD)(8.34)(45 mg/L) = 240 lbs/day Daily maximum: (0.640 MGD)(8.34)(50 mg/L) = 267 lbs/day

This permitting action carries forward the requirement for 85% removal for BOD and TSS pursuant to Department rule Chapter 525(3)(III)(a&b)(3).

Monitoring frequencies for BOD and TSS of 1/Week are being carried forward from the previous permitting action and are based on Department policy for facilities with a monthly average flow limitation between 0.5 MGD and 1.0 MGD

A review of the DMR data for the period calendar year 2001 to the present indicates the discharge from the waste water treatment facility is consistently below 50% of the mass and concentration limits in this permitting action.

- d. <u>Settleable Solids</u> The previous permit established a daily maximum concentration BPT limit of 0.3 ml/L that is being carried forward in this permitting action.
- e. <u>Fecal Coliform Bacteria</u> The previous permitting action established monthly average and daily maximum limits of 15 colonies/100 ml and 50 colonies/100 ml and are based on the Maine Water Classification Program criteria for the receiving waters (including standards in the National Shellfish Sanitation Program) and requires application of the BPT technology. The limitations are seasonal and apply from May 15th September 30th of each year. The Department reserves the right to require year-round disinfection to protect the health and welfare of the public.
- f. Total Residual Chlorine The previous permitting action established a water quality based daily maximum technology based concentration limit of 0.2 mg/L and a monthly average technology based concentration limit of 0.1 mg/L. Limits on total residual chlorine (TRC) are specified to ensure that ambient water quality standards are maintained and that BPT technology is being applied to the discharge. The Department imposes the more stringent of the water quality or technology based limits in permitting actions. End-of-pipe water quality based concentration thresholds may be calculated as follows:

Parameter	Acute	Chronic	Acute	Chronic	Acute	Chronic
	Criteria	Criteria	Dilution	Dilution	Threshold	Threshold
Chlorine	0.013 mg/L	0.0075 mg/L	15:1	125:1	0.20 mg/L	0.94 mg/L

Example calculation: Acute -0.013 mg/L (15) = 0.195 mg/L

To meet the water quality based limits calculated above, the permittee must dechlorinate the effluent prior to discharge. The Department has established a daily maximum BPT limitation of 0.3 mg/L for facilities that need to dechlorinate their effluent unless calculated water quality based limits are lower than 0.3 mg/L. In the case of the Boothbay Harbor Sewer District, the calculated acute (daily maximum) water quality based threshold of 0.20 mg/L is lower than the BPT limit of 0.3 mg/L, thus the water quality based limit of 0.20 mg/L is imposed. For the monthly average, the calculated chronic water quality based threshold of 0.94 mg/L is higher than the BPT limit of 0.1 mg/L, thus the BPT limit of 0.1 mg/L is imposed.

- g. Oil & grease This permitting action establishes a seasonal (June 1 September 30) monitoring and reporting requirement for oil & grease due to historical issues at the treatment facility as a result of the high concentration of restaurants within the District's boundaries. It is noted, the District has developed a written plan entitled, Guidelines for the Oil, Grease, and Solids Removal Standard Program, (last amended June 15, 2005) and implemented this pollution prevention program to minimize the oil & grease conveyed to waste water treatment facility.
- h. <u>pH Range</u>- The previous permitting action established a BPT pH range limit from to 6.0 –9.0 standard units pursuant to Department rule found at Chapter 525(3)(III)(c).
- i. Mercury: Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, Interim Effluent Limitations and Controls for the Discharge of Mercury, the Department issued a Notice of Interim Limits for the Discharge of Mercury to the permittee thereby administratively modifying WDL # W002750-46-B-R by establishing interim monthly average and daily maximum effluent concentration limits of 32.6 parts per trillion (ppt) and 48.8 ppt, respectively, and a minimum monitoring frequency requirement of four tests per year for mercury. The interim mercury limits were scheduled to expire on October 1, 2001. However, effective June 15, 2001, the Maine Legislature enacted Maine law, 38 M.R.S.A. §413, sub-§11 specifying that interim mercury limits and monitoring requirements remain in effect. It is noted that the mercury effluent limitations have not been incorporated into Special Condition A, Effluent Limitations And Monitoring Requirements, of this permit as the limits and monitoring frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. The interim mercury limits remain in effect and enforceable and modifications to the limits and/or monitoring frequencies will be formalized outside of this permitting document pursuant to Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519.
- j. Whole Effluent Toxicity (WET) & Chemical-Specific Testing: Maine law, 38 M.R.S.A., Sections 414-A and 420, prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. Department Rules, 06-096 CMR Chapter 530, Surface Water Toxics Control Program, and Chapter 584, Surface Water Quality Criteria for Toxic Pollutants set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters.

WET, priority pollutant and analytical chemistry testing, as required by Chapter 530, is included in this permit in order to fully characterize the effluent. This permit also provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the wastewater, existing treatment and receiving water characteristics.

WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate and vertebrate species. Priority pollutant and analytical chemistry testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health water quality criteria as established in Chapter 584.

Chapter 530 establishes four categories of testing requirements based predominately on the chronic dilution factor. The categories are as follows:

- 1) Level I chronic dilution factor of <20:1.
- 2) Level II chronic dilution factor of \geq 20:1 but <100:1.
- 3) Level III chronic dilution factor $\ge 100:1$ but < 500:1 or > 500:1 and $Q \ge 1.0$ MGD
- 4) Level IV chronic dilution >500:1 and Q ≤1.0 MGD

Department rule Chapter 530 (2)(D) specifies the criteria to be used in determining the minimum monitoring frequency requirements for WET, priority pollutant and analytical chemistry testing. Based on the Chapter 530 criteria, the Boothbay Harbor facility falls into the Level III frequency category as the facility has a chronic dilution factor \geq 100:1 but <500:1. Chapter 530(2)(D)(1) specifies that surveillance and screening level testing requirements are as follows:

Screening level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
III	1 per year	1 per year	4 per year

Surveillance level testing

Level	WET Testing	Priority pollutant testing	Analytical chemistry
III	1 per year	None required	1 per year

Department rule Chapter 530(D)(3)(b) states dischargers in Levels III and IV may be waived from conducting surveillance testing for individual WET species or chemicals provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedences.

A review of the data on file with the Department for the District indicates that to date, they have fulfilled the WET and chemical-specific testing requirements of the former Chapter 530.5. See Attachment C of this Fact Sheet for a summary of the WET test results and Attachment D of this Fact Sheet for a summary of the chemical-specific test dates.

On October 6, 2005, the Department conducted a statistical evaluation on the aforementioned WET and chemical-specific tests results in accordance with the statistical approach outlined in the Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control" (USEPA Publication 505/2-90-001, March, 1991, EPA, Office of Water, Washington, D.C.). The statistical evaluation indicates the discharge from the District's waste water treatment facility does not exceed or have a reasonable potential to exceed the critical acute (6.7%) or chronic (0.8%) water quality thresholds for any of the WET species tested to date. In addition, the 10/6/05 statistical evaluation indicates the discharge does not exceed or have a reasonable potential to exceed any acute, chronic or human health AWQC for any of the chemicals tested to date. Therefore, no numeric limitations for any WET species or chemicals tested to date are being established in this permitting action.

As for testing frequencies Chapter 530(2)(D)(3)(b) states in part that for Level III facilities "... may be waived from conducting surveillance testing for individual WET species or chemicals provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E). Based on the results of the 10/6/05 statistical evaluation, the District qualified for the testing waiver. Therefore, this permit action establishes a screening level testing requirements as follows:

Level	WET Testing	Priority pollutant testing	Analytical chemistry
III	1 per year	1 per year	4 per year

It is noted however that if future WET or chemical testing indicates the discharge exceeds critical water quality thresholds or AWQC, this permit will be reopened pursuant to Special Condition N, *Reopening of Permit For Modification*, of this permit to establish applicable limitations and monitoring requirements.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the waterbody to meet standards for Class SB classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the Boothbay Register newspaper on October 20, 2005 and again on October 27, 2005. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or request a public hearing, pursuant to Chapter 522 of the Department's rules.

9. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Gregg Wood
Division of Water Resource Regulation
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017
Te

Augusta, Maine 04333-0017

Telephone (207) 287-3901

e-mail: gregg.wood@maine.gov

10. RESPONSE TO COMMENTS

During the period of November 9, 2005, through the issuance date of the permit/license, the Department solicited comments on the proposed draft permit/license to be issued for the discharge(s) from the Boothbay Harbor Sewer District's waste water treatment facility. The Department did not receive comments from the permittee, state or federal agencies or interested parties that resulted in any substantive change(s) in the terms and conditions of the permit. Therefore, the Department has not prepared a Response to Comments.